

REMARKS

Reconsideration of this application is requested.

The allowability of claims 66-68, if made independent of a rejected claim, has been noted. While the applicants do not agree with the Examiner's rejection of the claims herein, including claim 56, claim 66 has been amended so as to be in independent form by adding the substance of claim 56 thereto. Accordingly, claims 66-68 should be allowable.

The Examiner's rejection of claims 72-88 under 35 U.S.C. 112, 2nd ¶ has been noted. Based on the Examiner's comments, it appears that claim 72 should not have been included in this rejection as the claim is not concerned with the preparation of a toner.

As far as claims 73-88 are concerned, the applicants do not consider these claims as initially presented to be indefinite. As the Examiner has appreciated, the toner referred to in the preamble is the required product. However, claim 73 has been amended to stress this. Accordingly, withdrawal of the Section 112, 2nd ¶ rejection is requested. Furthermore, since the Section 112 rejection was the only objection to claims 73-88, they are thought to be allowable on the record.

The Examiner is requested to reconsider the Section 103(a) rejection of claims 56-65 and 69-72 as being unpatentable over Ohno et al. U.S. Patent 6,096,468. The subject matter of the applicants' claims is not obvious from Ohno et al. for reasons noted below.

Initially, it is noted that the cited Ohno et al. U.S. patent is equivalent to EP 962832, which was considered by the Examiner at the EPO who prepared the International Preliminary Examination Report (IPER) on this application. While it is recognized that the IPER position is not controlling in the U.S., it is nevertheless believed significant that the IPER concluded that the present claims were both novel and non-obvious over the reference.

The applicants' invention is unobvious from Ohno et al. for a number of reasons. Thus, notwithstanding the fact that the wax domain size recited in the present claims (2 microns or less) is a substantially narrow (and non-obvious) selection within the wide range of possible wax domain sizes taught by Ohno (0.2-8.55 microns, as pointed out by the Examiner), this particular point is, in any case, moot in view of the other non-obvious

features of the claims. In particular, it is respectfully submitted that the Examiner has overlooked both the novelty of the toner shape features recited in the present claims and the corresponding evidence presented in the applicants' specification demonstrating non-obviousness of the same.

With regard to claim 56, it is essential at the outset to note that none of the toners presented in Ohno have the claimed combination of a shape factor, SF1, in the range 130-150 and a ratio SF1/SF2 from 1.07-1.13. In general, Ohno teaches a preference for a toner having a shape which is more spherical (i.e. lower SF1 values) than the shape defined by the present claims. Specifically, Ohno et al. teach that while the shape factor, SF1, may lie in the range 100-160, it is best to use a shape in the range 100-140 (see Col. 8, lines 20-8). Most of this range of 100-140 for SF1 in Ohno is outside the range of 130-150 for SF1 recited in claim 56 and is on the more spherical side.

It is especially important to note the results of the toner performance evaluation in Ohno as shown in Tables 4 and 9 (see Cols. 61-62 and 65-66). From Tables 4 and 9, it is clearly seen that the best results are obtained using Toners A-D (Table 4) and Toners H-K (Table 9). As indicated in Tables 3A and 8, these toners have the lowest SF1 values (all are less than 130, which is below the range recited in the present claim 56). Some of the other toners in the examples of Ohno do have SF1 values in the recited range 130-150 (e.g. Toners L & M in Table 8) but, critically, these toners do not have a ratio SF1/SF2 in the range 1.07-1.13 as recited by claim 56. The ratios of SF1/SF2 for the Toners L & M in Ohno are 1.14 and 1.15, respectively. As already noted, Toners L & M are among the least best performing in Ohno and have SF1 values outside the preferred range taught by Ohno et al. of 100-140. Consequently, these toners would not present themselves as obvious candidates from which to engineer new tones with different SF1/SF2 ratios. In any case, there is no teaching in the art that toners should have both the SF1 value in the range 130-150 and the ratio SF1/SF2 in the range 1.07-1.13 as recited in applicants' claim 56.

There are no toners presented in Ohno or suggested by Ohno which have the claimed combination of features. The Examiner refers explicitly to Toners G, L, M and N of Ohno. Toners L & M, as explained above, do not have the claimed SF1/SF2 ratio. Toner G does not have the claimed SF1/SF2 ratio either (1.15). Toner N has a SF2 value which is too high (155).


On the other hand, the present application clearly shows the non-obviousness and advantages of the applicants' claimed combination of features. Table 2 on page 19 of the present application provides the SF1 and SF1/SF2 data for numerous toners. Table 3 on page 20 of the present application provides results of an evaluation of the toner performance of the toners and further results are described in the text following Table 3 (page 20, lines 8-14). From Table 2, it can be seen that Toners 3 and 6 have SF1 and SF1/SF2 values within the scope of the present claims. The SF1/SF2 ratios for Toners 3 and 6 are 1.11 and 1.08. The other toners have SF1 and/or SF1/SF2 values which are outside the scope of the present claims. From the data in table 3, it can be seen that Toners 3 and 6 have significantly better transfer efficiency than the other toners shown. In particular, the transfer efficiency of Toners 3 and 6 is up to 100%. Moreover, as described on page 20, lines 8-14, the Toners 3 and 6 (which are referred to as the "non spherical" toners) were found to clean well from a photoconductor which employs a mechanical cleaning device. Accordingly, toners within the scope of the present claims are especially useful for having both high transfer efficiency and good cleaning efficiency. Thus, the problems described in the present application on page 3, lines 33-38 are addressed by the toners of the present invention. On the other hand, the Toners 4 and 6 had lower efficiency of cleaning. The Toners 2 and 5 had lower transfer efficiency.

Similarly, with regard to applicants' independent claim 61, the claimed combination of features is not to be found in, or suggested by, any toner presented in Ohno. Moreover, such a combination of features is not obvious, particularly since Ohno teaches a preference for lower SF1 values and lower circularity (e.g. Ohno prefers circularities of 0.97-0.99 as described at Col. 8, lines 43-45). The problems solved by the toner of the present invention described above relating to transfer efficiency and clearing efficiency further evidence the non-obviousness of the claim.

In view of the foregoing, it is respectfully submitted that applicants' independent claims 56 and 61 define subject matter which is unobvious from Ohno et al. Accordingly, for the reasons noted, it is submitted that these claims should be found to be allowable. The same is true for the other claims included in the Examiner's Section 103(a) rejection (claims 57-60, 62-65 and 69-72) as these claims all depend, directly or indirectly, from claim 56.

All issues having been addressed, it is believed that the application is in condition for allowance and such action is requested. If the Examiner has any questions, he is requested to call the undersigned.

Respectfully submitted,
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